



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,551	06/26/2003	Alfred D. Ducharme	UCF-365	5328
7590 12/06/2005 Law Offices of Brian S. Steinberger 101 Brevard Avenue Cocoa, FL 32922			EXAMINER WILLIAMS, JOSEPH L	
			ART UNIT 2879	PAPER NUMBER

DATE MAILED: 12/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/606,551

Applicant(s)

DUCHARME ET AL.

Examiner

Joseph L. Williams

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 and 19-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13, 19-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The amendment filed on 28 September 2005 has been entered and overcomes the objection to claim 19.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-8, 19-23, and 28-38 are rejected under 35 U.S.C. 102(b) as being anticipated by Reeh et al. (US 6,812,500 B2).

Regarding claim 1, Reeh ('500) teaches a method of forming visible light sources with up conversion materials, comprising the steps of: generating near infrared light from a source; and upconverting the near infrared light through an encapsulated mixture of upconversion materials located in a sample holder having a reflective surface (figure 13, part 34) into a visible light emission dependent on the type of upconversion material used; and reflecting the visible light emission off the reflective surface; and applying the reflected visible light emission to a light fixture for at least one of a general lighting source or a decorative lighting source.

Art Unit: 2879

Regarding claims 2 and 3, Reeh ('500) teaches the generated near infrared light is emitted from a diode laser.

Regarding claim 4, Reeh ('500) teaches the upconversion materials are encapsulated in p-PMMA.

Regarding claim 5, Reeh ('500) teaches the visible light emission includes: red light.

Regarding claim 6, Reeh ('500) teaches the visible light emission includes: green light.

Regarding claim 7, Reeh ('500) teaches the visible light emission includes: blue light.

Regarding claim 8, Reeh ('500) teaches the visible light emission includes: white light.

Regarding claim 19, Reeh ('500) teaches a method of forming visible light using upconversion comprising the steps: providing near-infrared light, and upconverting the near-infrared light to the visible light spectrum with a rare-earth-doped crystalline host

Art Unit: 2879

as upconversion particles to produce visible light; and reflecting the visible light from a reflector (part 34 figure 13) onto a lens (figure 3, part 29), wherein a shape of the lens focuses the reflected visible light in a beam angle; and applying the reflected visible light to a light fixture spectrum as a general lighting source or decorative lighting source.

Regarding claim 20, Reeh ('500) teaches the visible light includes: visible red light.

Regarding claim 21, Reeh ('500) teaches the visible light includes: visible green light.

Regarding claim 22, Reeh ('500) teaches the visible light includes: visible blue light.

Regarding claim 23, Reeh ('500) teaches the visible light includes: visible white light.

Regarding claim 28, Reeh ('500) teaches an upconversion visible light source for general and decorative lighting, comprising; means for generating near infrared light from a source; upconversion materials for upconverting the near infrared light into a visible light emission; a reflector (figure 13, part 34) the visible light emission; and a means for focusing the visible light emission (lens 26, figure 3) into a light fixture as at least one of a general lighting source or a decorative lighting source.

Regarding claim 29, Reeh ('500) teaches the generating means includes: a laser diode.

Regarding claim 30, Reeh ('500) teaches the upconversion materials include: rare earth doped crystalline host particles mixed within encapsulation materials.

Regarding claim 31, Reeh ('500) teaches the visible light emission includes visible white light.

Regarding claim 32, Reeh ('500) teaches the visible light emission includes: visible red light.

Regarding claim 33, Reeh ('500) teaches the visible light emission includes: visible green light.

Regarding claim 34, Reeh ('500) teaches the visible light emission includes: visible blue light.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9-13 and 24-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reeh et al. (US 6,812,500) in view of Zarling et al. (US 5,698,397).

Regarding claims 9-13 and 24-27, Reeh ('500) teaches all of the claimed limitations except for the claimed phosphor compositions.

Further regarding claims 9-13 and 24-27, Zarling ('397) teaches in column 14, lines 20-53 the claimed phosphor compositions for the purpose of improving the brightness of the lamp.

Hence it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the phosphor of Zarling in the lamp of Reeh for the purpose of improving the brightness of the lamp.

Conclusion

3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

Art Unit: 2879

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph L. Williams whose telephone number is (571) 272-2465. The examiner can normally be reached on M-F (6:30 AM-3:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2879

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Joseph L. Williams
Primary Examiner
Art Unit 2879